

Biodiversity for a Livable Climate

Restoring Ecosystems to Reverse Global Warming

November - December 2017
by Adam Sacks



Why is thinking like a system so important? Why did our Climate Reckoning conference focus on systems thinking?

Because Earth is a system. Thus, it doesn't work to treat it like a collection of separate things. In particular, we cannot continue to isolate greenhouse gases as the primary "variable" to deal with -- though of course it's crucial to reduce emissions. We need to focus on the regenerative power of the the natural world instead narrowing in on greenhouse gases, otherwise we will fail to address floods, droughts, fires, sea level rise and threatening extinction of millions of species - as well as global warming.

A systems approach to life on Earth is the most hopeful view out there, by far, and it changes everything.

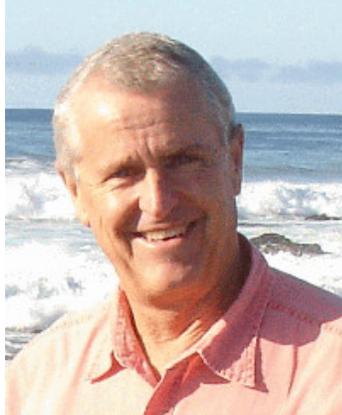
Read more below, but first . . .

David Johnson, Mycelial Man!

Events

[Meetup, Potluck and Discussion!](#)

Sunday, Dec. 10, 2017
6 - 9 p.m., Cambridge, MA



Todd Breitenstein on Living Soils and Growing with Biochar

Todd Breitenstein opened the Grateful Garden Center in Hanover MA in 2013 . He is a farmer and vegetable gardener, a practitioner who has worked with biochar for four years. He will talk about the 4x8 comparison beds he has maintained and will share his results . . . and we can ask about what he has learned.

If you're in the Boston area, please join us!



Surprising new research into fungi in just the past few years has revealed how critical this kingdom of life is to terrestrial biology. The fungal threads ("mycelia") that permeate healthy soils are essential to communication among green plants, nutrient cycling, water absorption into the ground, and even addressing global warming. You may be stepping on miles of mycelia with every footstep through your local forest!

David presented his remarkable research into the importance of fungal:bacterial ratios at Climate Reckoning (there are far too many bacteria compared to fungi in most agricultural soils). Synthetic nitrogen fertilizer favors bacteria and sends those ratios out of whack (beneficial for weeds, however).

He has discovered that re-establishing one-to-one fungal:bacterial ratios results in remarkable health and growth of human food and fiber crops. And on top of that, such revitalized soils capture unheard-of amounts of atmospheric carbon - up to 9+ tons per acre per year! (Typical carbon capture on agricultural soils is a ton per acre per year, maybe two - that is, if they aren't losing carbon to the atmosphere under modern industrial agriculture management.)



His secret? A composting technique where you aren't constantly turning over the compost and breaking mycelial threads, thereby hobbling the full function and positive effects of beneficial fungi. See how to build the simple composter [here](#). And hear more about David's work [here](#).

David is one of the many speakers who presented innovative and inspiring work at Climate Reckoning. We expect to have conference videos up by mid-December. Stop by then for a feast of planet hope! (To be fair, there's a generous helping of hope in our earlier videos as well - check out the program or main page of each of [our conferences](#).)

Wednesday, December 13th
7:00 - 9:00 p.m.

Biodiversity for a Livable Climate is pleased to co-sponsor the Jamaica Plain Forum's presentation of [Slow Money and Nurture Capital: A New Vision of Food, Money and Soil](#), with slow-money visionary Woody Tasch. Free and open to all!

SystemIQ

One of the topics we addressed was the economics of regenerative practices. Can a human economy thrive and at the same time *improve* life-support systems? The answer is trending to yes, and life-positive for-profit enterprises are sprouting like - well, as long as we're in fungal mode - mushrooms. [SystemIQ](#) is one of them - check it out!



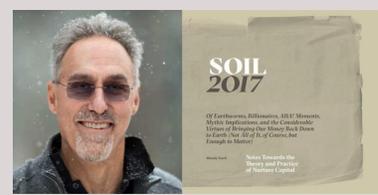
Climate Reckoning: Paths to an Earth Restored - Behind the Scenes

When we first contemplated organizing a conference based on systems thinking, we weren't at all sure how we would do it. Any familiarity with walks in the woods, turning over moldy logs, or listening to a meadow singing, speaks to the complexity of nature and the many ways things are interconnected. So we all have a feeling of what a system is - our bodies and minds give us a visceral sense, especially when one function is out of balance (extreme holiday meals and the digestive *system* complaints thereafter, for example).

But how do we, in a two-and-a-half-day conference, communicate not only the elements of the system, but also the experience of living *in* a system, with unexpected insights and connections that we wouldn't have imagined possible just from its discrete components ("emergent properties," i.e., properties of a system that bear little or no resemblance to the properties of its parts)?

The problem we wanted to address is that so much of our current thinking is a reflection of the isolated variables of modern analytical science. We imagine that by dissection into separate parts we learn about the secrets of the whole. Well, we can learn about the parts in great detail - and that can be valuable - but the whole still eludes us. That is how we have trapped ourselves into believing that just addressing *symptoms* can cure the *system*.

For example, we can't fix global warming by isolating



For up-to-date info on our local events

[Join our Meetup Group](#)

Stay Connected



This is the Home School Symbiosis Team, young pioneers who have presented at three of our conferences. In return for their efforts, we want to present them with a chance for a future in these perilous times!

As we work our way towards the end of 2017, we'll be asking you for a tax-deductible donation to help build a world for Annie, Hayden, Jamila, Lynus and millions of other children, teens and young adults who want a chance for full lives, like their parents and grandparents had. Even better lives, in fact - ones that embrace harmony with the natural world and the regeneration of the many earthly systems so tragically destroyed.

greenhouse gases as the villain - we have to address the whole system, of which human psychology and anthropology are crucial parts, not to mention biodiversity loss and extinction, poor water cycle management, and so many other things. Leaving out essential elements also leaves us empty-handed. This is the climate dilemma we face today.

So here's what we did:

We selected several subject areas, such as food, psychology, restoring ecosystems (of course!) and others. Rather than group all speakers on one topic together, we juxtaposed them with other speakers in unexpected ways and encouraged all participants to be open to the new connections as they appeared. And for many participants and speakers, it was a success!

The way systems work - including the system of human learning is not walking a straight line, it's wandering through the varied enchantments of every day of our lives (even if we don't always notice). The many random events of a day - or a lifetime - coalesce as *you*, or any of us, as we emerge as individual creatures of uniqueness. Yet somehow we manage to become coherent systems, functioning in larger social and natural systems that have coherences of their own.

Our lives, our ecosystems, our planet are all threads in the web of life (and non-life). As John Muir has said, "When we try to pick out anything by itself, we find it hitched to everything else in the Universe." This isn't a metaphor, it's literally true. The better we understand this, the better our chances of emerging intact from the evolutionary trials of the twenty-first century. Climate Reckoning was an exciting and successful step traveling the Systems Road!

For further discussion of our systems approach to conference planning, please see the [Climate Reckoning program page](#).

What's Funny About Human Systems?

The *Systems Bible* by John Gall is full of insightful and humorous observations on *human* systems, our pitfalls and pratfalls. These observations do not apply to far more complex systems of Nature.

Note that the book provides good explanations for all its

The great news is we know how to do this - and we've already begun! I've seen dramatic changes in awareness and action in just the last three years. I like to think that Biodiversity for a Livable Climate is playing an important role in saving this beautiful world.

So please help us continue our education and activism with a generous donation. We'll be in touch as we head into the holidays - and we'll try to ask you in a way that's entertaining, enlightening and even humorous at times.

Many thanks, as always, for your interest and support!

Adam

Donate



About Biodiversity for a Livable Climate

Through education, policy and outreach, our mission is to promote the power of the natural world to stabilize the climate and to restore biodiversity to ecosystems worldwide. Collaborating with organizations around the globe, we advocate for the restoration of soil, and of grassland, forest, wetland, coastal and ocean ecosystems - along with the associated carbon, water and nutrient cycles - to draw down excess atmospheric greenhouse gases, cool the biosphere, and reverse global

systems observations.

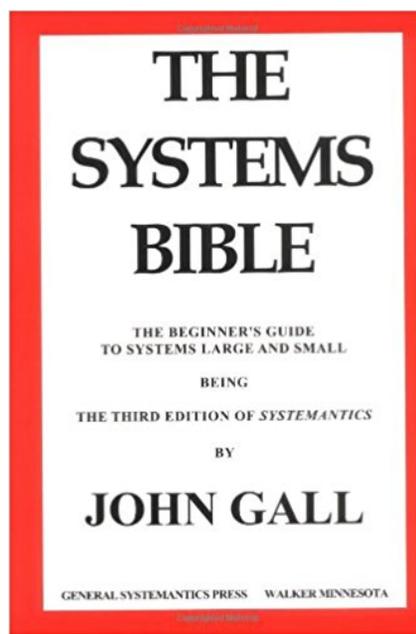
* * * * *

Here are some examples:

- *New systems generate new problems.*
- *Complex systems exhibit unexpected behavior.*
- *A large system produced by expanding the dimensions of a smaller system does not behave like the smaller system.*
- *Systems always kick back.*
- *People in systems do not do what the systems say that they're doing.*
- *The system itself does not do what it says it is doing.*
- *To those within a system, the outside world tends to pale and disappear.*
- *The chart is not the patient.*
- *Designers of systems tend to design ways for themselves to bypass the system.*
- *Big systems either work on their own or they don't. If they don't, you can't make them (e.g., see [here](#)).*
- *A complex system that works is invariably found to have evolved from a simple system that worked.*
- *In complex systems, malfunction and even total non-function may not be detectable for long periods, if ever (e.g., dependence on fossil fuels).*

And many more. You may not agree with everything Gall says, but you may well agree that he makes some good points (and he does give plenty of examples). With a dollop of wry humor . . .

Enjoy!



warming, for the benefit of all people and all life on earth.

Learn more about our ongoing projects and upcoming events and find additional information and resources at bio4climate.org.

!!Announcing!!

Our Compendium of Scientific and Practical Findings Supporting Eco-Restoration to Address Global Warming is available now.

The evidence is powerful and it's growing by leaps and bounds. We're collecting it in a comprehensive document that will be updated every six months. The power of Nature is out of the closet - let's welcome her with open arms!

Download it [here](#), pass it around!

